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Wool Quality and Thunderstorms - L P Smith

Details are available of the annual proportion of the wool which is "cast". These poor quality fleeces are thought to be due to mycological dermatitis. This disease could spread through a flock when they are clustered together in heavy rain.

The annual total of thunderstorms in the yearly summary of the MWR was averaged over the stations in each county in England & Wales; Scotland being considered as a whole. These averages were weighted with respect to the number of sheep per county to give a regional average corresponding to the Wool Marketing Board areas. For a combined thunderstorm average over England, Scotland and Wales, these area averages were weighted with respect to the wool totals. The thunderstorms of the year previous to the shearing were compared with the percentage of "cast" wool.

Results

		1963	1964	1965	1966	1969	1970	1971	1972
N England	Cast	24.8	25.5	28.2	27.3	32.7	32.7	22.4	25.8
	TLR	5.5	6.2	8.0	7.0	8.5	6.7	5.8	6.8
Central	Cast	33.4	36.3	39.9	35.2	57.5	52.3	39.1	39.0
	TLR	9.2	9.3	7.8	9.6	14.5	11.9	10.1	10.4
South	Cast	26.7	35.0	46.5	32.3	52.8	45.0	28.5	29.1
	TLR	8.5	7.7	11.8	8.4	12.5	14.4	8.3	6.9
Southwest	Cast	39.8	49.3	61.6	71.2	76.4	55.7	40.6	40.7
	TLR	5.7	5.2	4.6	5.3	8.1	7.2	8.2	6.2
Wales	Cast	24.0	28.0	28.1	24.4	47.1	43.5	32.7	40.3
	TLR	4.2	5.5	2.6	4.3	7.8	6.5	6.2	5.8
Scotland	Cast		20.1	25.3	29.4	40.6	39.5	35.2	28.7
	TLR		3.3	3.6	4.5	3.9	4.9	5.5	4.1
Total	Cast	28.8	30.3	35.6	32.0	47.6	43.4	32.0	32.6
	TLR	7.4	6.8	7.4	7.4	10.1	9.2	7.5	7.3

The correlations between percentage "cast" and thunderstorms are:

North	0.71	Southwest	-0.01		
Central	0.87	Wales	0.81	Total	0.96
South	0.85	Scotland	0.62		

Only 5 per cent of the wool is produced in the SW area; the non-existent correlation is probably due to the fact that there are few thunderstorms in Devon & Cornwall, but a proportionately higher frequency of heavy rain.

Considering the imperfections of the meteorological parameter, both in respect to time and nature, the relationships found tend to confirm the hypotheses put forward regarding the causes of poor wool quality.

The regional figures for "cast" wool, averaged over 8 years (7 for Scotland) are:

Southwest	56.8%	6.3 thunderstorms per year
Central	42.2	10.3
South	38.8	9.8
Wales	34.3	5.3
Scotland	30.2	4.3
North	27.7	6.8

Any comments or suggestions on this paper should be referred to the author.

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